

'Please cancel claims 23, 24, 25, and 26 without prejudice.

19. The cover of claim 17 wherein the pliable cover material is formed from polyethylene.

22. (AMENDED) The cover of claim 17, wherein the [joint filling material is an] open celled polyurethane foam of the joint filling material absorbs [capable of absorbing] moisture when underwater to increase ballast of the pipeline.

27. The cover of claim 17, wherein the cover material is between about 0.02 inches to about 0.5 inches in thickness.

Please add claim 28 as follows:

28. The cover of claim 17, wherein the opening in the cover material is sized to receive a mixing head for injecting the polyurethane chemicals and prevent escape thereof from the cover material.

REMARKS

Responsive to the Office Action of September 15, 2000, Claims 1-16 have been cancelled as the Examiner requested. Further, the Examiner's comments and the cited Holbert patent (U.S. Patent No. 5,489,405), as well as the Barrett patent (British Patent No. 1,448,823) in particular, have been noted and studied. The claims of the present application have been amended. For reasons to be set forth below, it is submitted that the application is in condition for allowance because patentable subject matter is recited in the claims. Accordingly, such action is respectfully requested.

With the Barrett reference, the rigid plastic cover formed from an upper member 8 and lower member 9 defines an opening into which a flowable, settable, unsaturated polyester resin based material is introduced. The Barrett reference teaches that the filling of the cover is enhanced by using vibratory devices applied to the outside of the cover. This is done to insure that the filler material is compacted and void free. See page 4, lines 85 and following of Barrett. For this reason, the covers of the Barrett reference are of having a high impact strength. In contrast, the present invention is directed to a pliable cover material wrapped in a cylindrical shape and having overlapping side edges to form an annular space.

The flowable, settable, unsaturated polyester resin based material is defined (see page 4, lines 75-86) according to the Barrett reference as one which is "capable of flowing optionally

with the aid of conventional feeding and compacting techniques, into the cavity within the cover" which thereafter sets "without the application of external heat into a solid, infusible mass."

With the Barrett reference, hatch covers 19 and 20 are provided to allow filling of the cavity up to the top of holes 21, 22. The filling with the flowable, settable, filler material accomplished up to that level at which time the filler material is then smoothed off manually and then allowed to set. See page 5, lines 26 and following of Barrett.

The Barrett references thus, is quite similar to that described in the present application at page 2, lines 25 and following. There, reference is made to a molten mastic which solidified as it cools. This is substantially the same as the material used as a filler in this regard in the Barrett reference. However, as noted at page 3 of the present application, pipeline laying operations, the pipeline has to be in a condition for handling immediately after the sleeves were filled so that pipe laying operations which are quite expensive, could proceed without delays. As in the Barrett patent, the filler material must be allowed to set and harden into solid, infusible mass, pipeline laying operations from barges would be duly extended in time and be undesirable.

It would not be obvious to combine the Barrett reference teachings with those of Holbert. First, Barrett uses a flowable, settable polyester resin which must be allowed to set. The Holbert reference uses foamed polyurethanes where two reactants which react together and relatively rapidly set up a resultant foamed filler product. Using such a technique with the Barrett structure would not be obvious. The numerous openings in the Barrett cover (such as at 17, 18 of Fig. 4 and holes 21, 22 of Fig. 7) would allow the resultant foam product of the Holbert reactants to rapidly swell and extrude out from the cover. Further, provision would have to be considered in Barrett to accommodate the contemplated membrane of cardboard or other material mentioned for example at Col. 8, l. 63 and following in Holbert.

Further, the only teaching for using foamed reactants in structure like that of Barrett comes from Applicant's disclosure. As noted above, Holbert requires additional elements such as adhesion protective membranes within the steel mold.

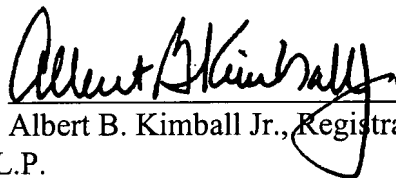
The present application is respectfully submitted to patentably distinguish from the Barrett reference and the Holbert reference, either singly or in combination. As now present, the cover according to the present invention is formed of a pliable cover material which is comprised of a sheet of material wrapped in a cylindrical shape and having overlapping side edges sealed

together to form an annular space around the pipe which is to be coated. As noted above, the Barrett reference requires rigid relatively strong plastic materials in order to withstand the vibratory impact of vibratory compaction imparted to the flowable, settable resin.

In addition, claim 17 of the present application recites that the joint filling material introduced into the annular space within the cover material around the pipe to be coated is of a high density open-celled polyurethane foam formed by reacting polyurethane chemicals inside the cover material. As detailed in the present application, this material has significant advantages over the prior art flowable, settable, materials, since the two component chemicals react upon contact with each other and expand and fill the annular space within the cover. Also, with the present invention, the rapid setting polyurethane foam is capable of absorbing water and increasing the ballast effect on the pipeline 10.

In summary, it is respectfully submitted that the claims of the present application are neither anticipated nor made obvious by the Barrett or Holbert reference, singly or in combination. For this reason, it is respectfully submitted that all claims now present are allowable and such action is respectfully requested. Allowance and passage to issue of the present application is submitted to be in order.

Respectfully submitted,

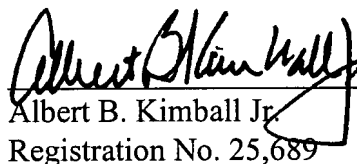


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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on March 1, 2001.



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